



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: <b>PCT/JP99/04855</b>		<p>YAMASHITA, Katuyoshi [JP/JP]; 5-7-206, Myoukenzaka, Katano-shi, Osaka 576-0021 (JP). KIRIHARA, Nobuyuki [JP/JP]; 57-6, Nagaonishimachi 2-chome, Hirakata-shi, Osaka 573-0162 (JP). OOTANI, Kazuo [JP/JP]; 4-3-5, Eganosou, Habikino-shi, Osaka 583-0886 (JP). TAKADA, Yuusuke [JP/JP]; 1-10-519, Ikuno, Katano-shi, Osaka 576-0054 (JP). YASUI, Hideaki [JP/JP]; 75-20, Suyamacho, Hirakata-shi, Osaka 573-1164 (JP). MURAI, Ryuichi [JP/JP]; 4-4-67-105, Kamishinden, Toyonaka-shi, Osaka 565-0085 (JP). HIGASHINO, Hidetaka [JP/JP]; 31-1-1, Hikaridai 7-chome, Seikacho, Souraku-gun, Kyoto 619-0237 (JP). NAGAO, Nobuaki [JP/JP]; 76, Nishiura, Hironocho, Uji-shi, Kyoto 611-0031 (JP). OOKAWA, Masafumi [JP/JP]; Room 303, Syoufuuryou, 3-14, Miyukihigashimachi, Neyagawa-shi, Osaka 572-0055 (JP). TANAKA, Hiroyosi [JP/JP]; 288-3, Kiyomizu 1-chome, Higashiyama-ku, Kyoto-shi, Kyoto 605-0862 (JP).</p>	
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(75) Inventors/Applicants (for US only): HIBINO, Junichi [JP/JP]; 919-1-A712, Utiage, Neyagawa-shi, Osaka 572-0802 (JP). YAMAMITSU, Choujurou [JP/JP]; 1-1-131, Suimeidai, Kawanishi-shi, Hyogo 666-0116 (JP). YONEHARA, Hiroyuki [JP/JP]; 9-10, Nishitamiyacho, Hirakata-shi, Osaka 573-0025 (JP). SASAKI, Yoshiki [JP/JP]; 222-9, OoazaOkayama, Shijounawate-shi, Osaka 575-0004 (JP).			
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(54) Title: DISPLAY PANEL AND MANUFACTURING METHOD FOR THE SAME INCLUDING BONDING AGENT APPLICATION METHOD

(57) Abstract

Barrier ribs (18) formed on a back substrate (PA2) are brought into contact with a bonding paste layer (40) having an even surface, applying a bonding agent (Bd) evenly to the tops of the barrier ribs. Furthermore, a gas discharge panel having a structure in which discharge mainly occurs at locations distanced from parts of the panel connected using the bonding agent (Bd) is realized.

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/JP 99/04855

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H01J9/26 H01J9/24 H01J17/49

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 27571 A (AOKI MASAKI ;MURAI RYUICHI (JP); SUZUKI SHIGEO (JP); YASUI HIDEAKI) 25 June 1998 (1998-06-25) cited in the application	1,20,21, 24,27, 36,39
X		53-56,59
Y	& EP 0 945 886 A (MATSUSHITA ELECTRIC IND CO) 29 September 1999 (1999-09-29) column 12, line 35 -column 13, line 42 column 14, line 24 -column 15, line 1 column 28, line 2 - line 39; figures 1,3,16	44-52
Y	US 5 742 122 A (TESHIROGI HITOSHI ET AL) 21 April 1998 (1998-04-21) column 4, line 45 -column 6, line 26; figures 2,4	44-52
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search

18 May 2000

Date of mailing of the international search report

02.06.00

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

In International Application No  
PCT/JP 99/04855

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 814 491 A (MOTOROLA INC) 29 December 1997 (1997-12-29)	1
X	column 4, line 26 - line 55; figures ---	53-56, 59
A	FR 2 686 984 A (FUTABA DENSHI KOGYO KK) 6 August 1993 (1993-08-06) abstract; figures ---	1
A	EP 0 789 384 A (SPECTRON CORP OF AMERICA LLC) 13 August 1997 (1997-08-13) column 13, line 19 - line 26 ---	56, 57
A	EP 0 782 167 A (PIONEER ELECTRONIC CORP) 2 July 1997 (1997-07-02) column 17, line 50 - column 21, line 53; figures 9-16 ---	44, 45
A	DE 195 42 426 A (SAMSUNG DISPLAY DEVICES CO LTD) 30 May 1996 (1996-05-30) column 4, line 1 - line 32; figures 1-4 -----	44

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP 99/04855

### Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims: it is covered by claims Nos.:

#### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-43, 53-59

display panel wherein front and rear plate substrates are connected together via barrier ribs; several methods for depositing a bonding agent on top of each rib and/or patterning the ribs-bonding agent system

2. Claims: 44-52

gas discharge display panel structured so that discharges occur in areas away from areas where barrier ribs are bonded to opposite substrate

## INTERNATIONAL SEARCH REPORT

Information on patent family members

In International Application No

PCT/JP 99/04855

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